

REMARKS

Claims 1-20 are pending in this application. By this Amendment, claims 1, 3-8, 10 and 12-17, the specification and the Abstract are amended. New claims 19 and 20 are added. Reconsideration of the application is respectfully requested.

Applicants thank Examiner Heinrich for the courtesy extended to Applicants' representative, Mr. Luo, during the August 7, 2003, personal interview. The substance of the interview is incorporated in the following remarks.

The Office Action rejects claims 1-18 under 35 U.S.C. §112, second paragraph. Claims 1, 3-8, 10 and 12-17 are amended, as suggested by the Examiner, to overcome this rejection. The specification and the Abstract are also amended, as suggested by the Examiner during the personal interview. Withdrawal of the rejection of claims 1-18 under 35 U.S.C. §112, second paragraph, is respectfully requested.

The Office Action rejects claims 1-18 under 35 U.S.C. §102(b) over U.S. Patent 4,578,554 to Coulter. This rejection is respectfully traversed.

The Office Action asserts that Coulter discloses all elements recited in claims 1-18. Applicants respectfully submit that Coulter does not disclose or suggest an optical head that projects a laser beam, and a holding-turning mechanism that holds and turns the optical head so as to turn the optical head in a direction perpendicular to a moving direction of the laser beam projector, the holding-turning mechanism being configured to be attached to a robot arm, as recited in claims 1 and 10.

As discussed during the interview, Coulter discloses a welding head 16 mounted on the arm of a robot 10. See Fig. 1 and col. 3, lines 7-13 and lines 47-55. The welding head 16 is capable of rotating around an axis 30 so as to allow the rotatable mounting of a transmission tube 18 on the welding head 16. See Fig. 1 and col. 3, lines 62-68. Coulter discloses mounting the welding head 16 on the arm of the robot 10 and only discloses capability for rotating the

welding head 16 about the axis 30. Thus, Coulter's welding head 16 does not provide the ability to rotate the welding head 16 in a direction perpendicular to a welding line. Therefore, Coulter does not disclose or suggest an optical head that projects a laser beam, and a holding-turning mechanism that holds and turns the optical head so as to turn the optical head in a direction perpendicular to a moving direction of the laser beam projector, the holding-turning mechanism being configured to be attached to a robot arm, as recited in claims 1 and 10.

For at least the above reasons, Coulter does not disclose or suggest each and every element recited in claims 1 and 10, and claims 2-9 and 11-18 depending therefrom. Thus, Coulter does not disclose or suggest the subject matter recited in claims 1-18. Withdrawal of the rejection of claims 1-18 under 35 U.S.C. §102(b) is respectfully requested.

Claims 19 and 20 are each patentable at least in view of the patentability of claims 1 and 10, from which they respectively depend, as well as for the additional features they recite.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachment:
Substitute Abstract

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ABSTRACT OF THE DISCLOSURE

A laser beam projector to be employed in an automatic welding machine, such as a robot, includes an optical head ~~of projecting that projects~~ a laser beam and a holding and turning mechanism ~~of holding and turning that holds and turns~~ the optical head. The spot of the laser beam can be accurately located on the portion to be welded by turning the optical head by the holding and turning mechanism.